

REMARKS/ARGUMENTS

Claims 1 and 3-10 are pending in this application. By this Amendment, Applicant AMENDS claim 1.

Claim 1 has been amended to correct minor informalities and to clarify the features recited therein as suggested by the Examiner in the first paragraph on page 3 of the outstanding Office Action. Accordingly, Applicant respectfully requests that this Amendment be entered, whether or not the Application is in condition for allowance, because it materially reduces and simplifies the issues for appeal.

Claims 1 and 3-10 were rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. As stated above, claim 1 has been amended in a manner similar to the Examiner's suggestion in the first paragraph on page 3 of the outstanding Office Action to correct the informalities noted by the Examiner. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1 and 3-10 under 35 U.S.C. § 112, second paragraph.

Claims 1 and 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nobuyoshi (JP 2001-117533) in view of Wakita (U.S. 2002/0154077). Claims 4 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nobuyoshi and Wakita in view of Baba (U.S. 2002/0003522). Claims 6-8 and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nobuyoshi and Wakita in view of Kwon (U.S. 6,360,149). Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nobuyoshi and Wakita in view of Morita (U.S. 7,154,488).

Applicant respectfully traverses the rejections of claims 1 and 3-10.

Claim 1 has been amended to recite:

A display device comprising a display panel and driving circuitry for driving the display panel, wherein,
the display panel includes a first display section and a second display section;
the first display section includes a plurality of first scanning lines, a plurality of first signal lines, a plurality of first switching elements each connected to one of the plurality of first scanning lines and one of the plurality of first signal lines, and a plurality of first pixels each connected to one of the plurality of first switching elements;

the second display section includes a plurality of second scanning lines, a plurality of second signal lines, a plurality of second switching elements each connected to one of the plurality of second scanning lines and one of the plurality of second signal lines, and a plurality of second pixels each connected to one of the plurality of second switching elements; and

the driving circuitry includes a first scanning line driving circuit for supplying a first scanning signal to the plurality of first scanning lines, a first signal line driving circuit for supplying a first data signal to the plurality of first signal lines, a second scanning line driving circuit for supplying a second scanning signal to the plurality of second scanning lines, and a second signal line driving circuit for supplying a second data signal for the plurality of second signal lines, the driving circuitry being capable of driving the first display section with a first vertical scanning frequency and driving the second display section with a second vertical scanning frequency which is different from the first vertical scanning frequency, **both the first and second vertical scanning frequencies used to display still images on the first and second display sections are lower than both the first and second vertical scanning frequencies used to display moving images on the first and second display sections.** (emphasis added)

Applicant has amended claim 1 to clarify the specific features recited therein as suggested by the Examiner. More specifically, Applicant has amended claim 1 to recite the feature of “both the first and second vertical scanning frequencies used to display still images on the first and second display sections are lower than both the first and second vertical scanning frequencies used to display moving images on the first and second display sections.” Support for this feature is found, for example, in Applicant’s previously presented claim 1 and in paragraphs [0035] and [0038] of Applicant’s specification.

The Examiner alleged that the combination of Nobuyoshi and Wakita teaches the features recited in Applicant’s claim 1. More specifically, the Examiner alleged that Nobuyoshi teaches most of the features recited in Applicant’s claim 1 except that “Nobuyoshi does not expressly teach the first and second vertical scanning frequencies being first and second frequencies when the first and second display sections are displaying still images and the first and second vertical scanning frequencies being third and fourth frequencies when the first and second display sections are displaying moving images, wherein the first and second frequencies are lower than the third and fourth frequencies.” To remedy this deficiency in Nobuyoshi the Examiner relied on Wakita, alleging, “Wakita [claim 13] teaches the concept of driving a display

section at a first frequency when the display section displays still images and at a second frequency when the display section displays moving images, wherein the first frequency is lower than the second frequency.” Thus, the Examiner concluded, “[I]t would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display device of Nobuyoshi to drive the display sections at first and second frequencies when the display sections display still images and at third and fourth frequencies when the display sections display moving images, wherein the first and second frequencies are lower than the third and fourth frequencies, as taught by Wakita, in order to optimize the power consumption of the display device of Nobuyoshi.” Applicant respectfully disagrees.

Contrary to the Examiner’s allegation, one having ordinary skill in the art at the time of the invention would not have been motivated to modify Nobuyoshi in view of Wakita in the manner alleged by the Examiner because one having ordinary skill in the art at the time of the invention would not have had any expectation of success in using the frequency lowering technique of Wakita in the display device of Nobuyoshi. As the Examiner is aware, the consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success. Rockwell Int’l Corp. v. United States, 147 F.3d 1358, 47 USPQ 2d 1027, 1033 (Fed. Cir. 1998).

Nobuyoshi teaches a display device with a matrix 107 that includes a left-hand side block 170a and right-hand side block 170b, as shown in Fig. 1 of Nobuyoshi. However, Nobuyoshi merely teaches displaying different video formats (for example, NTSC and computer formats) on the left-hand side block 170a and right-hand side block 170b, as discussed in paragraph [0030] of the English language translation of Nobuyoshi. Nobuyoshi does not teach or suggest altering a vertical scanning frequency of the left-hand side block 170a and right-hand side block 170b of the display device depending on the types of images displayed on the left-hand side block 170a and right-hand side block 170b of Nobuyoshi.

As discussed above, the Examiner admitted that Nobuyoshi clearly fails to teach or suggest the feature of “both the first and second vertical scanning frequencies used to display

still images on the first and second display sections are lower than both the first and second vertical scanning frequencies used to display moving images on the first and second display sections” as recited in Applicant’s claim 1.

Wakita teaches a special purpose display device with an unconventional liquid crystal display that includes different adjacent pixels A, B, as shown in Fig. 1 and discussed in paragraph [0034] of Wakita. Paragraphs [0038], [0042], and [0043] of Wakita further state that the different adjacent pixels A, B are a normally white pixel, and a normally black pixel, respectively. Thus, in order for a display device to be able to use the frequency lowering technique taught by Wakita, the display device must include both normally white pixels and normally black pixels adjacently arranged in the same display device.

Contrary to the Examiner’s allegations, Nobuyoshi cannot be modified to perform the frequency lowering technique taught by Wakita because the display of Nobuyoshi does not and cannot include both of a normally white mode pixel and a normally black mode pixel. The preferred embodiments of Nobuyoshi use field emission and plasma display panels, as discussed in paragraphs [0018] and [0036] of Nobuyoshi. However, both field emission and plasma displays are only capable of generating normally black pixels and cannot be modified to include the normally white pixels required by Wakita.

While Nobuyoshi does briefly mention a liquid crystal display in paragraph [0001], Nobuyoshi does not discuss the structure of this liquid crystal display, nor does Nobuyoshi teach or suggest that this liquid crystal display could be modified to include normally white pixels and normally black pixels. Additionally, normally white pixels and normally black pixels have substantially different applied voltage requirements and viewing angle characteristics and could not be used in systems which switch between different display formats that require different horizontal and vertical frequencies because the hardware requirements for such a system that requires both normally white pixels and normally black pixels would change for each different display format, and thus could not be implemented in the unchangeable solid state hardware of the display device of Nobuyoshi. Accordingly, any modification of Nobuyoshi to include normally white pixels and normally black pixels would significantly hinder

Nobuyoshi's ability to provide a display that can provide many different types of video formats on separate display areas by switching between different horizontal and vertical frequencies for different formats. Further, even if a split-screen display of the type taught by Nobuyoshi could somehow be modified to include both normally white pixels and normally black pixels, it would suffer from very poor display quality and extremely prohibitive production costs.

The Examiner is reminded that if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) and MPEP § 2143.01.

Thus, one having ordinary skill in the art at the time of Applicant's invention would not have any reason to combine Nobuyoshi and Wakita as suggested by the Examiner. Further, the Examiner has failed to provide a combination of references that teach or suggest the feature of "both the first and second vertical scanning frequencies used to display still images on the first and second display sections are lower than both the first and second vertical scanning frequencies used to display moving images on the first and second display sections" as recited in Applicant's claim 1.

Instead of basing the conclusion of obviousness on actual teachings or suggestions of the prior art and the knowledge of one of ordinary skill in the art at the time the invention was made, the Examiner has improperly used Applicants' own invention as a guide. It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. The Federal Circuit has previously stated that one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. In re Fritch, 972 F.2d 1260, 23 USPQ 2d 1780, 1784 (Fed. Cir. 1992).

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 103(a) as being unpatentable over Nobuyoshi in view of Wakita.

The Examiner relied upon Baba, Kwon, and Morita to allegedly cure the deficiencies of

Nobuyoshi and Wakita. However, Baba, Kwon, and Morita clearly fail to teach or suggest the feature of “both the first and second vertical scanning frequencies used to display still images on the first and second display sections are lower than both the first and second vertical scanning frequencies used to display moving images on the first and second display sections” as recited in Applicant’s claim 1. Additionally, Baba, Kwon, and Morita also fail to provide any reason to combine Nobuyoshi and Wakita in the manner as alleged by the Examiner. Thus, Applicant respectfully submits that Baba, Kwon, and Morita fail to cure the deficiencies of Nobuyoshi and Wakita described above.

Accordingly, Applicant respectfully submits that Nobuyoshi, Wakita, Baba, Kwon, and Morita, applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in Applicant’s claim 1.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claim 1 is allowable. Claims 3-10 depend upon claim 1, and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

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Reply to the Office Action dated January 21, 2010

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The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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